AirEQ

User Manual

I. Introduction

AirEQ

Mix eyes closed

Thank you to have chosen AirEQ!

AirEQ have been design to give you the best equalization sound, with excellent ergonomics and unique features.

AirEQ has been thought to be a musical equalizer and to let you mix with eyes closed. Without graphical equalization curve display, you can really focus on the sound. The musical tunings of AirEQ has been also thought to be suited to the ear functioning.

Tuning the Q factor with AirEQ is now natural and intuitive, and it reacts not the same way than most equalizers does, so you may have a little adaptation time before its use becomes very familiar for you.

You can find back the ease and intuition of use of an analog equalizer with AirEQ. But with the advantages of digital plugin : display frequencies as musical notes, use one of the numerous tuning options as L/R or M/S modes, and benefit from the featured preset system to let you store and recall your favorite Q/Frequency setups. Name equalization bands to remember what are the characteristics of your equalization, hide parameter values to work even more intuitively…

Mix eyes closed with AirEQ…

II.   Quick Start

To use AirEQ, insert the plugin in a track that you want to equalize.

The AirEQ interface opens. The default setting has all the bands off. The RTAS version, in this setting, does not consume any CPU power.

When you move a knob, it automatically sets the corresponding equalization band to on. It also set the general **IN** switch to on. This way, you do not need to switch the band and the global processing to on.

Displaying the values
You can choose to display or to hide the parameters values and the band names. Click on the **Options** button to display the option menu, choose the **Display** menu item. You have access to display options with this menu : the first items lets you choose if you want to display parameter values and band names.

In the display menu, you can whose whether you want to display the frequency values as Hz or as musicale notes. It is useful when you work with harmonic instruments and that you have some resonances on specific notes.

The Q-factor values can also be displayer as Octaves. The Q-Factor knob behaves like this :
- **Turn to the left**, the peak/dip slope is broader, the shelf, low pass and high pass slopes are softer. It corresponds to **lower Q-factor values**, and higher Octave values.
- **Turn to the right**, the peak/dip slope is steeper, the shelf, low pass and high pass slopes are sharper and had an overshot. It corresponds to **higher Q-factor values**, and lower Octave values.

To tune a parameter, you can use :
- The left click for coarse tuning
- The right click or shift+right click gives you a fine tune of the parameter
- If values are displayed, click on the value allows you to directly enter a numerical value.
- If you want to tune the Q factor or the frequency of a band, you can press the Alt key while right clicking. It will move the gain knob to its maximal value, this way it will be easier to hear frequency resonances and to tune the right parameter value.

Using the presets

You can browse the presets by clicking on the **Bank** button. You will find presets for different signals to process : mastering, instruments… Select a preset which corresponds to your case. The presets do not have any band gain, but instead, its bands Q factors and frequencies have particular settings, suited to the preset destination use.

Each band has a particular name which represents a characteristic of the sound. To display the band names, press the **Options** button, select the **Display** menu item and select **Name Display**.
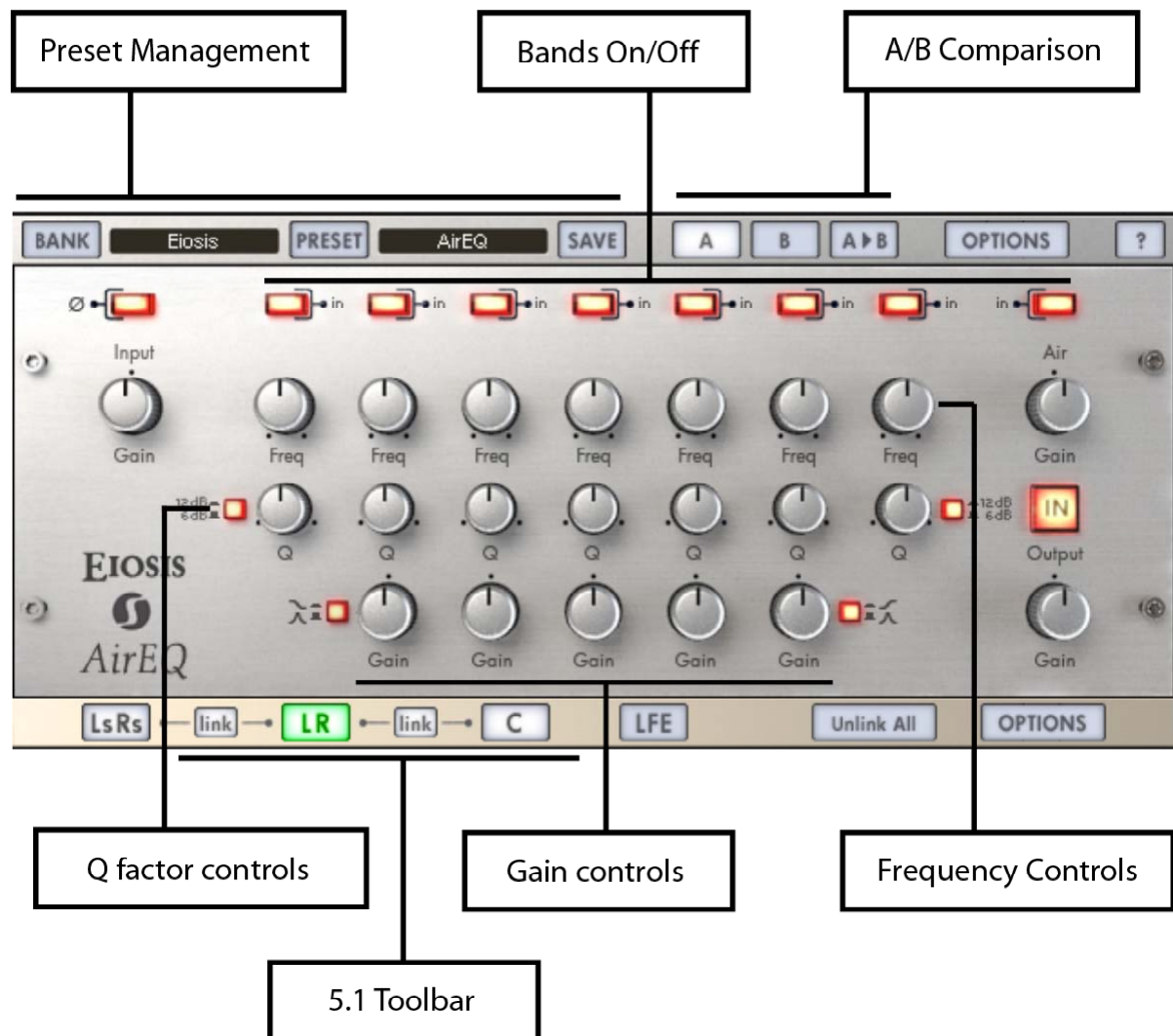
You can now move the gain knobs corresponding to the characteristics of the sound you want to modify.

III. Detailed Functions

AirEQ has several controls to which lets you manage the equalization parameters, the presets and the options.

The menu bar contains :
- The **Bank** menu, to browse presets by bank and select bank options
- The **Preset** menu, to browse presets inside the current bank and to select preset options.
- The **A/B** comparison buttons, to switch from A to B memories
- The **Options** button, which opens the options menu
- The **?** button, which opens a help panel with a keyboard shortcuts reminder

Then, he AirEQ interface features all the controls to set the equalizer parameters :

- The input **phase switch**
- The **Input gain** knob
- The **In** switches for each band, to activate/deactivate each band processing
- The **Band Names** which lets you name each band.
- The **Frequency** knobs for the first 7 bands
- The **Q factor** knobs, which adjust the Q factor of the corresponding band
- The **Slope** selectors which lets you choose the slope of **Low Cut** and **High Cut** filters.
- The **Gain** knobs, which adjust the gain of the corresponding band
- The **Type** selectors, for the first and last full bands, which lets you choose between bell and shelf filter types.
- The **Air** knob, which adjust the Air amount
- The **In** switch, which activates and deactivates the global processing
- The **Global Gain** knob.

III.1.   *Equalization bands*

AirEQ features 8 equalization bands. Combining these bands allows getting the desired equalization in almost every situation where a sound needs to be corrected.

At the top of each band, a switch allows to switch on or off the corresponding band. Then you find 3 knobs : frequency, Q-factor to set the width of the filter, and gain for peak/boost and shelf filters.
The Air band has only a gain knob.

III.1.1.   Band activation and deactivation

Each equalization band has an **On/Off** switch which allows activating and deactivating the corresponding band. When you move a knob, the **On/Off** switch of the same band is automatically set to On.
You can change this behavior by deactivating the **Auto on** in the **Options** menu.

You also can use the **Kick On/Off** for the band switches. Use the right-click or shift+left click on the On/Off switches : it will temporarily change the state of the switch, and when you release the mouse button or the shift key, the switch will return to its initial state.

AirEQ features an auto in system which switches on a band while moving a knob. This function can be disabled when a band have been switched on at least one time.
When launching AirEQ, on preset change or when resetting the equalizer, the first movement of a knob will always switch on the corresponding band.

Please note that the auto on feature is only active while tuning a parameter via the graphical User interface of AirEQ. If a value is modified with automation, the auto on feature will be disabled.
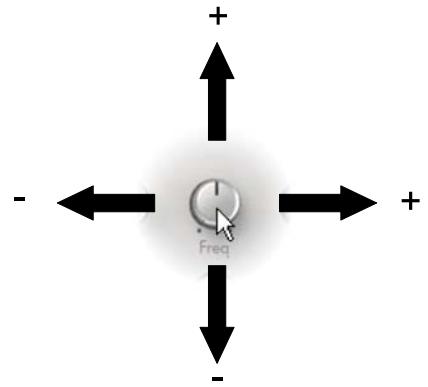
III.1.2.   Adjusting the parameters

You can tune a value by clicking on a knob. Linear adjustment is set by default. According to the host, the value adjustment can also be circular.

For precise adjustments, it is recommended to work with linear movement. Adjusting a parameter can be done with horizontal or vertical movements; it allows to get several degrees of adjustments for the same mouse displacement, depending of the mouse movement direction.

You can access to fine tuning by left clicking on the knob while tuning a value. You can also shift right click to get fine tune on a value.

You can also directly enter the values at the keyboard, if the values are displayed. You just have to click on the value display to modify it.

III.1.3.   Typing the values

You can hide or display the values, according to your needs. It may be useful to hide them if you really want to work with your ears.
Each parameter value can be displayed blow the corresponding knob. To display the values, select **Options ➤ Display ➤ Value Display**.

The frequency display can be set as Hz (default display) or notes. The A3 note corresponds to a 440 Hz frequency. To display the frequencies as notes, select **Options ➤ Display ➤ Frequency as Notes**.

The Q-Factor display can be set as qualiy (default display) or octaves. To display the Q-factor as octaves, select **Options ➤ Display ➤ Q-factor as octave**.

III.1.4.   Adjustment with maximum gain

You can tune the frequency and the Q-factor values while keeping the gain at a Maximum value. This way, you can more precisely hear the resonances you search for, while keeping the original gain of the bands.

To set the gain value at maximum gain while tuning the frequency or the Q-factor, press the Alt key while adjusting the value. When you release the alt key, the gain returns to its original value.

III.1.5.   Band naming

You can individually name each equalization band. It allows to set a specified Q factor / frequency set and to name it according to a sound characteristic. To name a band, simply click on the name field to modify it.

You can name each band to visualize more easily you equalization settings. This feature is very useful to assign and to know when you recall a preset, the "function" of each band, or the characteristic it is intended to modify.
Thus, you can name the bands with names such as "presence", "warmth", "body", etc...

To display the band names, select **Options ➤ Display ➤ Name Display**.

To modify a band name, click on the name to modify, and enter the new name to the keyboard. Press enter to validate your modification.
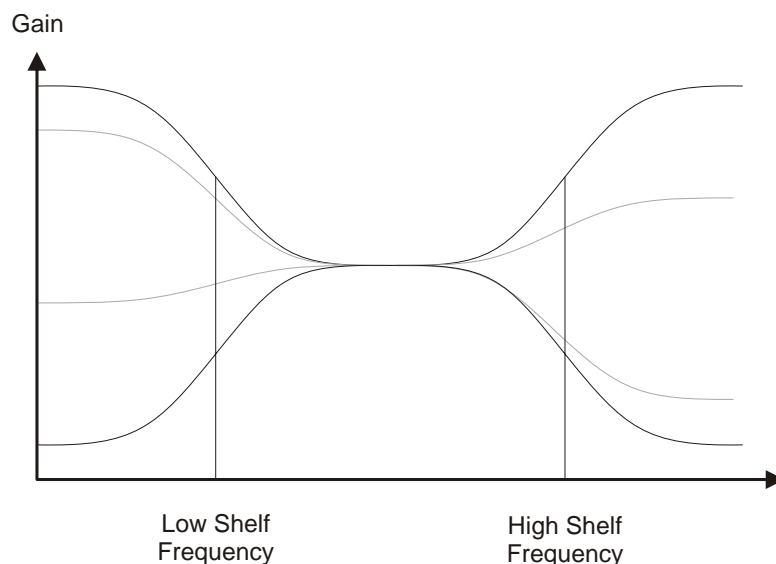

III.1.6.   Peak/Dip bands

The 3 middle bands are peak/boost bands. Each band frequency can be set from 20Hz to 20kHz, their Q factor from 0.1 to 7 and their Gain between -15dB to 15dB.
The peak/dip bands have a particular behavior regarding Q/Gain adjustment. The Gain and Q values are interdependent to reacts according hearing sensation. It allows getting a more natural equalizing process, where the Gain do not need to be readjusted after a Q-Factor modification, and where the Gain adjustment gives a regular loudness sensation across the whole gain range.

Turned to the left, the Q-factor gives a broad equalization slope. Turned to the right, the slope is steeper.

III.1.7.   Shelf/bell Bands

The second and sixth band can be set as peak/dip or shelf bands. The second band can be set as a low shelf, and the sixth band a a high shelf.
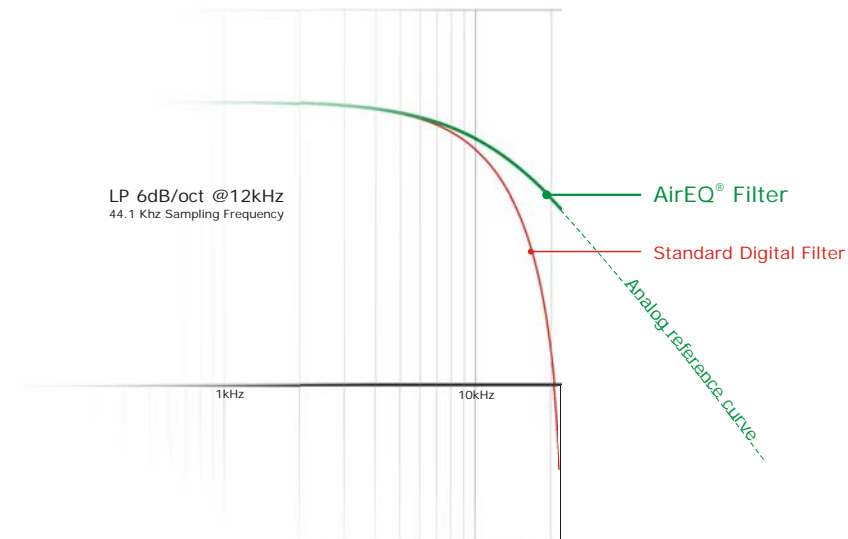

The low and high shelf has a particular behavior regarding the frequency : the adjustment frequency is the "center" frequency of the filter, while usually for shelf filters, the adjusted frequency is on of the resonant frequencies.

The result is a more natural behavior when adjusting the gain : the shelf filters reacts the same way for positive and negative gain, as for low and high shelf filters.

III.1.8.   Low Cut / High Cut Bands

The low cut and high cut band are useful for regularly cutting frequency above or below a certain frequency. Unlike many digital EQs, AirEQ has a high cut filter which is not warped and perfectly matched to an analog filter curve. This is very important especially for a 6dB/ot low cut, to get a very smooth a very regular attenuation in the highs.

III.1.9.   Air Band

The Air band is a special filter which is useful for adding brightness and Air to the sound. This special filter adds high frequencies without being harsh or unpleasant. It only has one gain parameter, which allows adjusting the Air amount. This filter is not symmetric, i.e. it has not the same shape for positive and negative gains.

For standard high frequency enhancement, use gain between up to 3dBs. For sounds which particularly lack high frequencies, use gain up to 6dB. Upper values are useful when you have a very dull sound, when you want to refresh the highs or when the record where damaged.

At high gain values, be careful of output clipping : high frequency boosts may increase digital clipping, so you can add a high cut filter to limit these high frequency clippings.

III.2. Preset management

AirEQ features a preset management system which allows storing, recalling and managing your presets. You can also import and export preset banks, and modify preset information.

Note : in Protools, it is better to use only one preset system at the same time. Use only the Protools preset system or the AirEQ preset system, since using both may be confusing.

III.2.1. Preset display and ordering

Presets are ordered into banks. Click on the bank button to show all the banks, which contains the presets in each sub menu. Click on the preset button to show the presets of each bank.
You can modify the way that the presets are ordered and showed.

Use factory presets

In the bank menu, the "Use factory" option shows the factory presets which are intalled with AirEQ. Thus you can modify the factory presets, store them in a factory bank and show only the preset you modified without displaying the factory presets.
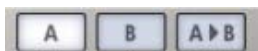
Preset ordering option

In the bank menu, the "sort by..." option allows to show a sub menu. This menu allows to select a criteria to order the presets :

- Sort By Bank Name : display the presets ordered by bank
- Sort By Author Name : Display the presets according to the preset author
- Sort by Project Name : Display the presets according to the project.
- Sort By Active Bands : Display the presets by activated equalization bands.
- Sort By All Presets : Display all the presets at the same time in one bank.

You can modify Author, project and other preset information in the preset information menu.

A/B Comparison

You can find the following buttons in the menu bar :

Please note : do not use the Protools compare feature and the AirEQ A/B comparison. Using both systems at the same time may be confusing.

Anyway, the A/B function in AirEQ works differently as the one in Protools : it allows to really compare two settings, and not the actual setting with the one stored in the Protools preset.

III.3.   *Option menu*

In this menu, you will find many options to configure the display and the use of AirEQ, like value display, adjustment value snap, and general behaviors.

III.3.1.   General options

Class bands by frequency order

To display your settings in a clearer and more logical way, it could be useful to order your equalization bands by increasing frequency order, from left to right. Indeed, on analog equalizer, it is common to find equalization bands with overlapping frequency settings, ordered from let to right.

To order the frequencies by increasing frequency order, select Options ➤ Display ➤ Class bands by Frequency order.

You can only order the Bell bands, it means that if a band is in shelf mode, it won't be included in the ordering.

Init settings from current settings

When you load AirEQ on a track, init settings are used. You can modify these init settings by using the "Init settings from current settings" option. It sets all the default values which will be used when AirEQ loads from the current displayed settings.

Band auto On

The auto In feature allows to automatically turn on the In switch of the bands. It is useful when you launch AirEQ and when you do not want to manually switch on the band you are adjusting.
To activate the auto in feature, select **Options ➤ Display ➤ Auto On Active**.

Please note that :
- The first time that you launch AirEQ, when you load a preset or when you reset AirEQ, the On/Off switch will always be set to On when moving a knob, whatever the option Auto On Active is.
- When you use automation to change equalization values, the auto on is inactive.

Output gain always active

It can be useful to keep the output gain always active, even when the equalization is deactivated. Indeed, the output gain is sometimes set to compensate the equalization settings, or to adjust the desired output level, but if the equalizer is deactivated, the output gain is also deactivated.

This option allows keeping the output gain always active, even if the Global In switch is deactivated.
To activate this option, go to **Options ➤ Display ➤ Out Gain always active**.

III.3.2. Display options

The Display options menu allows configuring the AirEQ display according to your needs and to the information that you want to display.

Value Display

You can display or hide the parameter values in AirEQ. Select Options ➤ Display ➤ Value Display to show or hide the parameter values.
We would recommend mixing without displaying the values most of the time, because it.

Name display

You can assign a name to each equalization band. It is useful when you are adjusting a equalization setting and that you want to assign to each band a particular "signification".

Display frequencies as notes

It can be useful to visualize the frequencies as musical notes of the scale, tuned on the 440 Hz A.

Q-Factor as Octaves

The Q-Factor is displayed as width/frequency ratio, but you can also display the Q-Factor as octave width.

III.3.3. Value Snap

On several analog equalizers, the values can be adjusted by stepped values. Some people will prefer stepped values against continuous values, because it allows to find faster always the same values when adjusting.
The snap values has been elaborated to

To activate the value Snap, go to : **Options ➤ Snap**.

You can separately adjust the Snap options for Frequencies, Q-Factor, and Gain.

III.3.4. Options saving

You can save the global parameters of AirEQ in order to launch AirEQ each time with the same configuration.

You have two ways to save and recall the options. You can save the options in the host project or permanently in a file to recall the same options in all your projects.

III.4.   *Keyboard shortcuts*

Keyboard Shortcuts	Left Click	⌘ - Click or Right Click	Option - Click	⌘ - Option Click	Shift - Click
Switches	On / Off	Kick On / Off			
Band Names	Edit Name Text				
Frequency	Coarse or Snap	Fine	Reset to Init Setting	Set Init Setting	Coarse with Max Gain
Q	Coarse or Snap	Fine	Reset to Init Setting	Set Init Setting	Coarse with Max Gain
Gain	Coarse or Snap	Fine	Reset to Init Setting	Set Init Setting	